Having thus described my invention, I now claim:

1. A method of verifying a projected image within a view plane of an augmented-reality display system as a preselected object whereby the object may be employed as an interface tool for the system, comprising steps of:

 identifying a representative characteristic of the object within the view plane;

 determining dimensional aspects of the object from the projected image;

 computing a corresponding dimensional identity and location of the object at an object point relative to the view plane; and,

 verifying whether the dimensional identity and location are reasonably consistent with predetermined standards for the object.

2. The method as claimed in claim 1 wherein the preselected object comprises a reference panel such as a screen, tablet or piece of paper and the identifying includes recognizing a corner of the panel.

3. The method as claimed in claim 2 wherein the determining comprises calculating distances between corners and a center point of the reference panel.

4. The method as claimed in claim 3 wherein the computing comprises converting the calculated distances to the dimensional identity and location based on an assumption that the reference panel is structurally flat.

5. The method as defined in claim 1 wherein the comparing includes testing from at least one of the tests of (a) whether the object has expected dimensions or proportions, (b) whether the corners are right angles, (c) whether a center point matches when calculated from distinct sets of the corners, (d) whether the

5   corners are generally within a common plane, and (e) whether the object lies within an expected viewing range.

6.   The method as defined in claim 1 wherein the preselected object is comprised of three equidistant line points and the determining comprises

10   detection of projected dimensions of the three equidistant line points.

7.   The method as defined in claim 6 wherein the computing comprises calculating object coordinates in real space of the object at the object point based on the projected dimensions of the three equidistant line points in the view

15   plane and known augmented-reality display system geometric dimensions.

8.   A method for identifying a piece of paper in a viewing area of an augmented-reality display system comprising steps of:

identifying an object at a viewing plane in the viewing area having a

20   characteristic representative of the piece of paper;

locating a plurality of corners of the object;

calculating a dimensional representation of the object in the viewing plane from the locations of the corners;

unprojecting the dimensional representation to calculate a plurality of

25   object coordinates representative of a size of the object and a distance of the object from the viewing plane; and,

comparing the object coordinates with predetermined standards indicative of the piece of paper for verifying the object as the piece of paper.

9.   The method as defined in claim 8 wherein the calculating includes identifying a diagonal between the corners comprised of three equidistant line points.

10.   The method as defined in claim 9 wherein the identifying includes identifying a center point of the diagonal.

11.   The method as defined in claim 8 wherein the unprojecting includes calculating the object coordinates based on dimensions of the object in the viewing plane and display system geometrics.

12.   The method as defined in claim 8 wherein the comparing includes testing from at least one of the tests of (a) whether the object has expected dimensions or proportions, (b) whether the corners are right angles, (c) whether a center point matches when calculated from distinct sets of the corners, (d) whether the

5   corners are generally within a common plane, and (e) whether the object lies within an expected viewing range.

13.   An augmented-reality display system for verifying a presence of a predetermined reference frame within a system image, comprising:

a real item disposed within a view plane of the system;

a sensing device for identifying from the view plane a characteristic of

5   the real item associated with the predetermined reference frame; and,

a controller for determining dimensions of the real item within the view plane, for computing a corresponding dimensional identity and location of the real item relative to the view plane, and for verifying whether the dimensional identity and location correspond with the presence of the predetermined reference frame.

14.   The system as defined in claim 13 wherein the real item comprises a piece of paper.

15.   The system as defined in claim 14 wherein the controller includes means for computing three dimensional object coordinates of the piece of paper relative to the view plane.

16.   The system as defined in claim 14 wherein the controller includes means for The method as defined in claim 1 wherein the comparing includes testing from at least one of the tests of (a) whether the object has expected dimensions or proportions, (b) whether the corners are right angles, (c) whether a center point

5   matches when calculated from distinct sets of the corners, (d) whether the corners are

generally within a common plane, and (e) whether the object lies within an expected viewing range.